

American River Basin: Downtown Combined Sewer Upsizing Project

Attachment 3: Work Plan

Introduction.....	2
Goals and Objectives.....	5
Purpose and Need.....	6
Project List	7
Integrated Elements of Projects.....	12
Regional Map	13
Completed Work and Existing Data and Studies	15
Program Preferences	15
Project Map	16
Project Timing and Phasing	16
Data Management and Monitoring Deliverables	17
Project Tasks	17
Detailed Description.....	18
Budget Category (a): Direct Project Administration Costs.....	23
Budget Category (b): Land Purchase/Easement.....	23
Budget Category (c): Planning/Design/Engineering/Environmental Documentation.....	23
Budget Category (d): Construction/Implementation.....	25
Budget Category (e): Environmental Compliance/Mitigation/Enhancement	26
Budget Category (f): Construction Administration.....	27
Budget Category (g): Other Costs.....	27
Budget Category (h): Construction/ Implementation Contingency.....	28
Tables	
Table 1: ARB Prop 1E Stormwater Project List.....	9
Figures	
Figure 1: ARB IRWMP Region Boundaries.....	4
Figure 2: Project Locations and ARB Regional Boundaries	11
Figure 3: DACs in the ARB Region	14
Figure 4: City of Sacramento Sewer Service Area	21
Figure 5: Location of Downtown Combined Sewer Upsizing Project.....	22

Introduction

The American River Basin (ARB) Integrated Regional Water Management (IRWM) planning region, approved by the California Department of Water Resources (DWR) during the 2009 Regional Acceptance Process (RAP), covers a geographic area of more than 1,200 square miles with a population of more than 1.5 million inhabitants (see Figure 1). At the heart of the region are the lower American and Cosumnes Rivers. The lower American River is the only nationally-designated wild and scenic river running through a major metropolitan area in the United States, and the Cosumnes River is the only river on the western slope of the Sierra Nevada without a large rim dam. Being at the intersection of a large urban population and the valuable natural resources within the region has presented many challenges to a sustainable water supply, including:

- increasing the potential for flood-related damages as urban growth moves closer to the rivers;
- keeping supply paced with some of the fastest growth areas in the State;
- substantial cones of depression in the underlying groundwater basins;
- regionally-extensive groundwater contaminant plumes resulting from defense-related activities; and
- the need to balance environmental and water supply needs.

These challenges could have thrown the region into a crisis resulting in gridlocked water supplies and environmental degradation. Instead, beginning in 1993, regional stakeholders from a broad spectrum of interests came together to negotiate, for nearly seven years, a balanced solution for future water supply and environmental protection. The result was the landmark April 2000 Water Forum Agreement (WFA), which was signed by 40 stakeholder groups from a diverse representation of local government, environment, and business interests from Sacramento, Placer and El Dorado Counties. The WFA brought forth a new era of regional planning and collaboration based on two co-equal objectives:

1. Provide a reliable water supply for planned development to the year 2030; and
2. Protect and preserve the Lower American River.

In 2001, the Regional Water Authority (RWA) was formed as a joint powers authority (JPA) to assist local purveyors in the planning needed to implement the WFA. In 2004, RWA launched its initial effort to begin developing an IRWM planning region centered primarily on the stakeholders and projects involved in the Water Forum process. This resulted in the adoption in 2006 of the *American River Basin Integrated Regional Water Management Plan* (ARB IRWMP). RWA began the process of comprehensively updating its IRWM Plan using planning and stakeholder forums identified in its RAP application in 2009. Through these forums, the breadth of the planning effort has expanded beyond just the stakeholders involved in the Water Forum process to a much broader group of interests. The current geographic and demographic composition of the ARB IRWM region presents great opportunity to benefit local water supply for all users, expand habitat, improve flood protection, and ultimately provide benefits to the Sacramento-San

Joaquin Delta adjacent to the region, which is partially within and primarily immediately downstream of the region.

The Downtown Combined Sewer Upsizing Project, included in this Proposition (Prop) 1E IRWM Stormwater Grant Program Proposal (Proposal) was one of three stormwater-related projects identified through an inclusive stakeholder process (described in Attachment 1 of this Proposal). These three projects (the Antelope Creek Improvement Project, the Downtown Combined Sewer Upsizing Project, and the Upper Unionhouse Creek Flood Protection Project) contribute significantly to the Program Preferences included in the *Proposition 84 & Proposition 1E IRWM Guidelines* (DWR, August 2010), and each are discussed further in this attachment.

The City of Sacramento is submitting this Proposal on behalf of itself and the rest of the ARB IRWM Planning Region to request \$6,210,151 to implement the project described herein.

American River Basin: Downtown Combined Sewer Upsizing Project
Attachment 3 – Work Plan

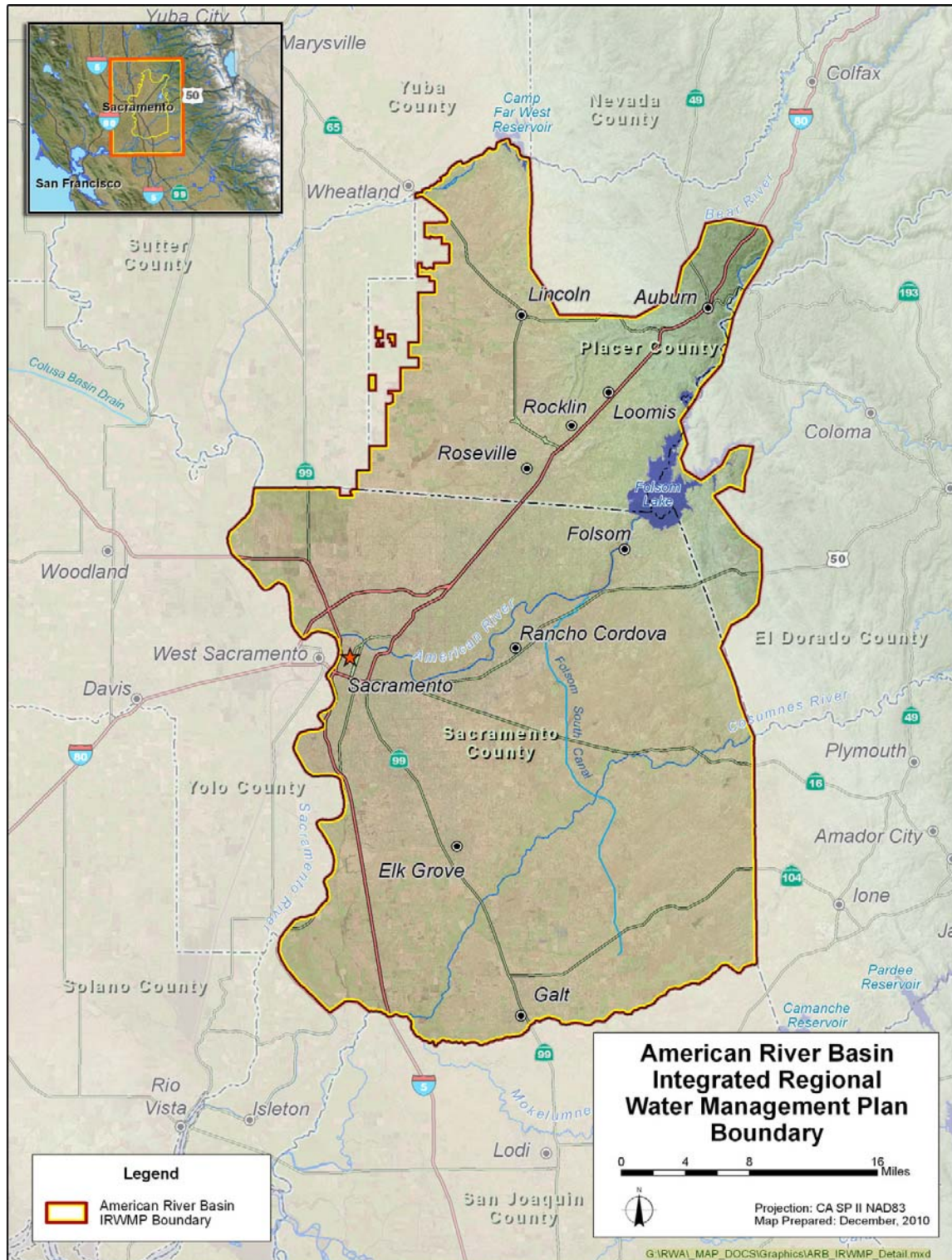


Figure 1: ARB IRWMP Region Boundaries

Goals and Objectives

The goal of this Proposal is to implement the current stormwater-related priority projects that best contribute to meeting the ARB IRWM objectives. While RWA is currently leading an effort to comprehensively update the American River Basin IRWM Plan to meet revised State standards, the objectives identified in the IRWM Plan adopted in May 2006 all serve to meet the adopted IRWM's mission "to preserve the economic and environmental health and well being of the region through the development of a program that focuses on watershed stewardship and comprehensive management of water resources in a reliable, cost effective, and responsible manner." The IRWM Plan Update will serve to update, expand, and quantify the existing objectives. The current adopted objectives of the ARB IRWM Plan include:

Stormwater and Floodplain Management – Provide the highest practicable level of achieving flood control and stormwater quality in the region.

Water Supply – Plan for and implement programs and projects that develop the highest level of reliability in public drinking water suppliers and equitably distribute capital and operating costs.

Groundwater Management – Protect and enhance groundwater resources and groundwater quality in accordance with adopted Groundwater Management Plans in the region.

Ecosystem Restoration – Coordinate with agencies developing plans that identify and implement ecosystem restoration projects along sensitive wildlife habitat areas in the region and Bay-Delta.

Recycled Water – Move forward in the long term planning of recycled water use to improve water use efficiency in the region, reduce TMDLs for certain constituents in receiving waters of treated wastewater effluent.

Potable Water Quality – Continuously look for innovative solutions in providing the highest level of protection in raw water sources used for potable drinking water supplies.

Other – Implement regional water management strategies that provide the highest level of understanding and financial support for regional programs and projects to meet the ARB IRWM Plan objectives.

This project was selected as it helps the ARB Region towards achieving this goal. Specifically, the goals and objectives of the Downtown Combined Sewer Upsizing Project include:

- Reducing flood damage in the economically vital downtown area of Sacramento;
- Improving water quality in the Sacramento River through the reduction in raw sewage releases into the source of drinking water for millions of Californians; and
- Protecting public health by reducing the likelihood and volume of diluted sewage on public streets and properties.

Purpose and Need

The purpose of this Proposal, and the corresponding proposals for the Placer County Flood Control and Water Conservation District Antelope Creek Improvement Project and the Sacramento Area Flood Control Agency Upper Unionhouse Creek Flood Protection Project, is to continue implementation of the vision of Integrated Water Resources Management initially visualized by the ARB Region through the development of the Water Forum Agreement, and being promoted by the State to ensure sustainable water supplies for future generations. The ARB Region has greatly expanded its outreach to stakeholders and has found that there is tremendous need to implement projects across a broad spectrum of water interests that will benefit the natural and human environments.

As described in Attachment 1 (Authorization and Eligibility Requirements) of this Proposal, the Downtown Combined Sewer Upsizing Project was identified through an open call for projects to representatives of more than 100 distinct stakeholder organizations throughout the region to ensure that the most current projects providing the greatest value to the region were identified and evaluated. This call for projects followed a series of stakeholder meetings on the IRWM Plan and its planned update.

While the IRWM Region's priority projects, such as the Project described herein, address the aforementioned IRWM goals and objectives in multiple ways, the Downtown Combined Sewer Upsizing Project, combined with the Antelope Creek Improvement Project and the Upper Unionhouse Creek Flood Protection Project, achieves significant progress toward meeting these IRWM goals and objectives in water supply, stormwater and floodplain management, ecosystem restoration, recreation and water quality. Each of these is discussed further below.

Stormwater and Floodplain Management

The Antelope Creek Improvement Project improves the ARB Region's stormwater and floodplain management capabilities. The flood control structures on Antelope Creek will reduce the peak flow of a 100-year storm event by as much as 1,000 cubic feet per second (cfs) at critical locations within downtown Roseville. This has significant potential to reduce flood damages for both residential and commercial properties located downstream of the project site both in downtown Roseville and in portions of unincorporated Placer County. Within the region, this is one of the highest priority flood control projects that do not fall within the State Plan of Flood Control.

The Downtown Combined Sewer Upsizing Project will reduce the frequency of combined sewer overflows in the Downtown Sacramento Region by replacing existing pipelines with larger pipes, by paralleling the existing pipeline and/or by connecting new pipes to upsized portions of pipes. These pipeline improvements will eliminate the bottleneck sections of combined sewer pipeline that currently exist and will lower the hydraulic grade line in this portion of the City with critical and high-value real estate that has experienced flooding in the past.

Another critical flood reduction project in the ARB region is the Upper Unionhouse Creek Flood Protection Project. This project will remove 250 to 300 homes from the floodplain, relieving the homeowners of the burden of costly flood insurance. The lower reach of Unionhouse Creek, below Franklin Boulevard has already been improved under the South Sacramento Streams Group (SSSG) project (Federal Project). The reach between Franklin Boulevard and Center Parkway has been under study as a part of the SSSG, but the project would enable this reach to be removed from the Federal Project, keeping it out of the State Plan of Flood Control and avoiding state liability for its maintenance. The

project will solve flooding issues in the project reach at a lower cost than could be achieved with the Federal Project, and removing this reach from the Federal Project will leverage other federal, state and local funds for underfunded flood control needs elsewhere in the Morrison Creek watershed. The channel widening that will be completed as part of the Upper Unionhouse Creek Flood Protection Project will ultimately contain 100-year flows or more in this reach of the creek.

Water Supply

The Antelope Creek Improvement Project will increase the capacity of the region to conjunctively manage its surface water and groundwater resources. The project will impound stormwater behind two new weirs during and following storm events, thereby allowing for groundwater infiltration. Similarly, the removal of sediment from Clover Valley Reservoir will improve the percolation capacity of the bottom of the basin, allowing for improved groundwater recharge. In a similar manner, the widening of Upper Unionhouse Creek as part of the Upper Unionhouse Creek Flood Protection Project will provide for limited earthen areas which will allow for groundwater infiltration during and following storm events.

While the Downtown Combined Sewer Project will not provide any direct water supply benefits, the project will reduce the frequency and volume of raw sewage discharges to the Sacramento River. This river is a major source of water supply for much of the greater Sacramento, and drinking water intakes do exist downstream of the downtown area. Reducing the frequency of raw sewage discharges to the river will, in turn, reduce the number of times downstream intakes may have to curtail surface water diversions as a result of severe water quality impacts.

Ecosystem Restoration

The three ARB IRWM region proposals strongly recognize the relationship between a healthy ecosystem and stormwater runoff management. The Antelope Creek Improvement Project will include aquatic and riparian habitat restoration and improvement as a result of the Clover Valley Reservoir dredging and as part of the weir and intake bypass construction. As part of this project implementation, invasive vegetation will be removed and replaced with native vegetation.

Water Quality

A key aspect of the Antelope Creek Improvement Project, Downtown Combined Sewer Upsizing Project and the Upper Unionhouse Creek Flood Protection Project is the associated improvement in water quality. The Antelope Creek Improvement Project will significantly reduce the sediment loading to Clover Valley Reservoir, and subsequently to downstream reaches of Clover Valley Creek and Antelope Creek. The Downtown Combined Sewer Upsizing Project will significantly reduce the number of raw sewage releases resulting from the combined sewer overflow events, thereby reducing the introduction of bacteria, viruses and other runoff-borne contaminants to the Sacramento River. Finally, the widening of Upper Unionhouse Creek that will occur as part of the Upper Unionhouse Creek Flood Protection Project will slow stormwater flows, thereby allowing for the settling and subsequent removal of pollutants prior to discharges downstream.

Project List

The ARB IRWM Region is presenting three stormwater and flood reduction proposals including projects from its list of priority projects: the Antelope Creek Improvement Project, the Downtown Combined

Sewer Upsizing Project and the Upper Unionhouse Creek Flood Protection Project. Once these projects are implemented, the result will be measurable progress towards the Region's overall stormwater and water resource management objectives.

Table 1 summarizes the three projects being put forth by the ARB IRWM region; an abstract for each project, the current status of each project in terms of percent completion of design (as of April 2011), and the implementing agencies are noted. Figure 2 displays the project locations and the ARB IRWM regional boundary. Note that these are general project locations. More detail on the project location of the Downtown Combined Sewer Upsizing Project is provided in the detailed work plan later in this attachment. Details on the project locations for the other projects are provided in their respective proposals.

Table 1: ARB Prop 1E Stormwater Project List

Project Name	Abstract	Implementing Agency	Percent Design Complete
Downtown Combined Sewer Upsizing Project	<p>The City of Sacramento’s Combined Sewer System (CSS) serves the Downtown, East Sacramento and River Park, Land Park, Curtis Park, and Oak Park neighborhoods and totals 7,500 acres of the City. An additional 3,800 adjacent acres contribute sanitary sewer to the system, but the stormwater drainage is separate. These areas were separated as a result of efforts in the past to improve operational efficiency by diverting drainage and thus reduce the surcharging caused by high runoff flows. The CSS also includes two major pumping plants, Sump 1/1A and Sump 2/2A, and treatment plants that perform primary treatment (the Combined Wastewater Treatment Plant and Pioneer Reservoir).</p> <p>In 1990, the Central Valley Regional Water Quality Control Board (Regional Board) served the City with a Cease and Desist Order that directed the City to devise a plan to reduce its combined sewer overflows (CSOs) and CSS outflows. Over the next four years, the City developed the Combined Sewer System Improvement Program (CSSIP), obtained approval from the Regional Board and City Council, and since then has largely implemented it. This effort, with the ultimate goal of eliminating CSS outflows for 10-year, six hour storms, has resulted thus far in reduction in outflow volumes of about 60% since the inception of Phase 1 of the CSSIP, based upon hydraulic model results. This was achieved by increasing pumping capacity at Sump 1/1A and at Sump 2, and by constructing additional in-line and offline storage. Remaining projects in Phase 1 of the CSSIP mostly consist of completing the Downtown Sewer Upsizing Project, which, thus far, has been designed and constructed in sections due to funding constraints.</p> <p>To complete the Downtown Combined Sewer Upsizing Project, it is necessary to continue the “upsizing” in 7th Street to connect with a section upstream that was constructed out of sequence due to timing constraints, and to extend this network of upsized pipes in L, G, F, and 8th Street. For the project to function properly, it is necessary that it be continuous, without the bottleneck sections that currently exist. Once completed, the network of upsized and parallel pipes will serve to lower the hydraulic grade line in this portion of the City with critical and high value real estate that has experienced flooding of combined sewer in the past. The Downtown Combined Sewer Upsizing Project will be implemented in three phases, replacing existing pipelines with larger pipes, paralleling existing pipeline, or by connecting new pipes to upsized portions, whichever approach is determined to be most practical. Phase 1 of the project will address the pipeline on P Street between 5th and 7th Streets, and on S Street between 14th and 17th Streets. Phase 2 of the project will retrofit or replace the pipeline on 7th Street from P Street to K Street, while Phase 3 of the project will retrofit or replace the pipeline on G Street from 7th Street to 9th Street and on F Street from 13th Street to 15th Street.</p>	City of Sacramento	60% design completed for Phase 1; Phases 2 and 3 are in conceptual design
Antelope Creek Improvement Project	<p>The Antelope Creek Improvement Project is a collaboration between Placer County Water Agency (PCWA) and Placer County Flood Control and Water Conservation District (District). This multi-objective regional flood control, water supply and water quality improvement project is located within the Dry Creek Watershed area of the American River Basin and will be completed in three phases. The project will meet multiple planning objectives by improving water supply and water quality, increasing flood protection, restoring local ecosystems and expanding an existing public recreation corridor.</p> <p>Phases One and Two of this multi-purpose effort include a regional flood control project on Antelope Creek, a major tributary of the larger Dry Creek. Through the design and construction of two on-channel weirs along an existing open space-protected reach of the creek, the project will provide flood control and flood damage reduction benefits to repeatedly damaged areas of downtown Roseville. The project will reduce peak flood flows over a wide range of flood events, improve the timing of flood flows, enhance existing riparian corridor ecosystems, and improve water quality through groundwater recharge and the natural treatment of temporarily-stored flood waters within the floodplain. Both ecosystem restoration and public recreational opportunities will be enhanced wherever possible within the floodplain of Antelope Creek, which currently includes a multi-purpose public trail system. In-stream improvements will include bank re-contouring to ensure overbank flows, specific habitat enhancements for fisheries, removal of invasive plant species and replanting with natives. An interpretive trail sign system and a public trailhead/community node are also proposed to improve access to the multi-purpose trail system while helping to educate the public on the project.</p> <p>The Antelope Creek Improvement Project also includes improvements to the upstream Clover Valley Reservoir, which regulates water deliveries in the lower Antelope Canal and Creek and is operated by PCWA. The unlined portion of the Antelope Canal, near the Union Pacific Railroad track crossing, feeds the reservoir and has experienced severe erosion and down-cutting causing the reservoir to become silted and impairing the reservoir capacity. This phase of the project will construct a pipeline to convey the water from the Antelope Canal to the reservoir to reduce or eliminate erosion, and will include dredging of the reservoir to remove existing sediment and silt, restoring reservoir capacity and improving water quality both in the reservoir and in the downstream creek.</p>	Placer County Flood Control and Water Conservation District & Placer County Water Agency	Conceptual (10%) Design

Project Name	Abstract	Implementing Agency	Percent Design Complete
Upper Unionhouse Creek Flood Protection Project	<p>Unionhouse Creek is a tributary to Morrison Creek in the southern part of the City of Sacramento and in unincorporated Sacramento County. This creek floods out of bank in 100-year and more frequent storms; an estimated 250 to 300 homes are in the 100-year floodplain. The proposed Upper Unionhouse Creek Flood Protection Project seeks to keep 100-year flood flows within the channel from the confluence of Unionhouse and Strawberry Creeks, downstream to Franklin Boulevard where the federal South Sacramento Streams Group (SSSG) project will commence. The project will remove the 250 to 300 homes from the floodplain, relieving the homeowners of the burden of flood insurance, and removing this project reach from the Federal Project, which will free up funds for the currently underfunded federal project elements elsewhere within the watershed. The project will resolve flooding issues in the project reach, and removing this reach from the Federal Project will free up other federal, state and local funds for underfunded flood control projects elsewhere in the Morrison Creek watershed.</p> <p>The Upper Unionhouse Creek Flood Protection Project consists of the widening of Unionhouse Creek between Strawberry Creek and Franklin Boulevard. The channel widening of the Upper Unionhouse Creek Flood Protection Project will contain 100-year flows or more in this reach of the Creek.</p>	Sacramento Area Flood Control Agency	Conceptual (10%) Design

American River Basin: Downtown Combined Sewer Upsizing Project
Attachment 3 – Work Plan

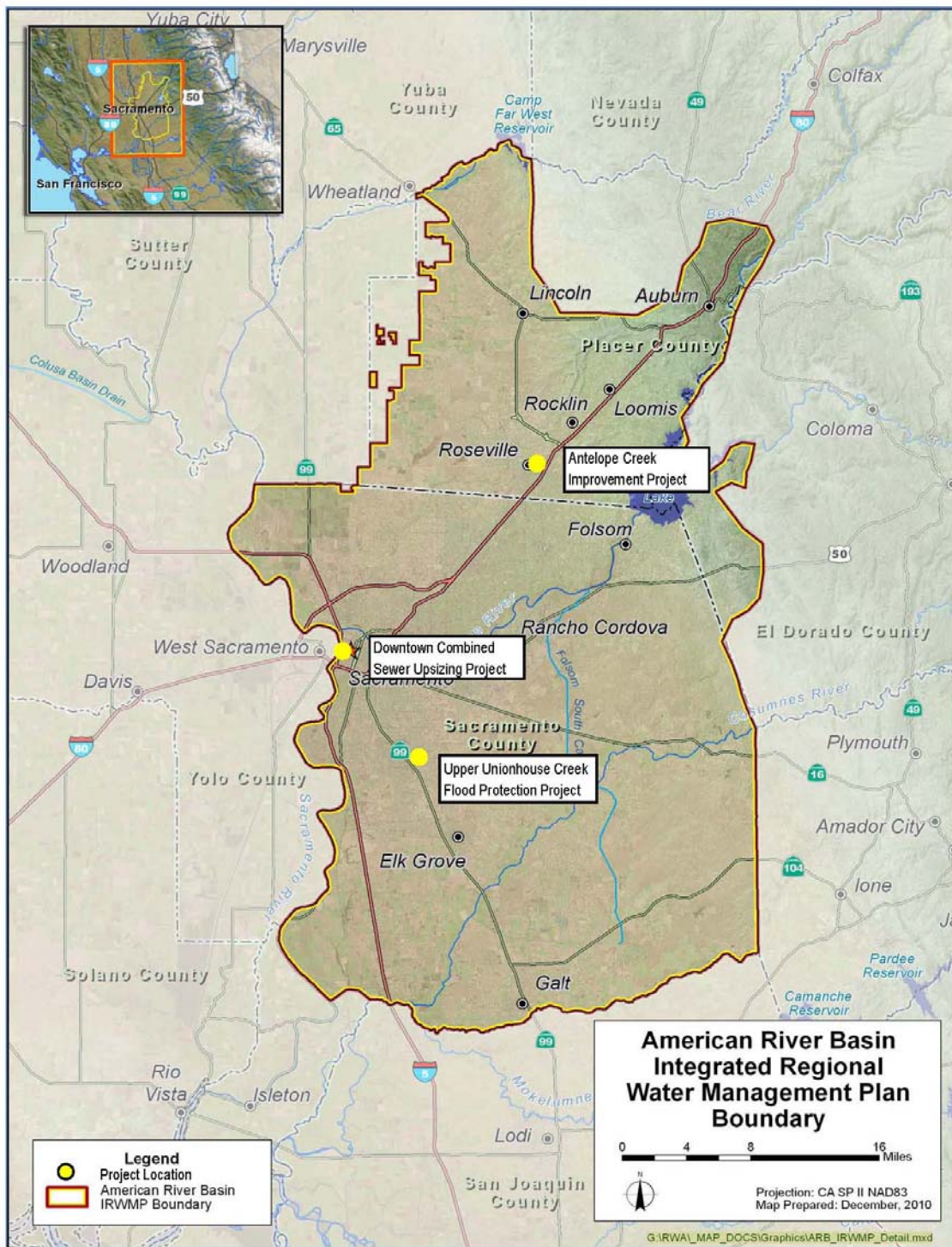


Figure 2: Project Locations and ARB Regional Boundaries

Integrated Elements of Projects

This Proposal for the Downtown Combined Sewer Upsizing Project, and its sister proposals for the Antelope Creek Improvement Project and the Upper Unionhouse Creek Flood Protection Project, is highly integrated from a regional perspective (e.g., implementing elements of the Water Forum Agreement and IRWM Plan) and, in many cases, at the project level. Beginning with the Water Forum Agreement (WFA), water managers and planners in the ARB IRWM Region have strived to efficiently utilize the region's precious water resources to ensure a future supply and protect and preserve the natural environment. Through coordinated efforts, integrated regional water management planning has been, and will continue to be, maximized through the use of overarching water management strategies spread throughout the region.

Combining multiple water management strategies to achieve multiple objectives allows for a diversified approach to problem solving. Specifically, the three projects summarized above all link to regional objectives for flood damage reduction, however each project also provides for water quality and/or water supply benefits. These integrated categories are described in more detail below, and where applicable, specific synergies or linkages at the project level are also described.

Protection from flood-related damage is a key goal in the ARB region, given its proximity to several of California's major rivers. As previously noted, the American River Basin is located between some of the Central Valley's most noted rivers, and as such, is acutely aware of the importance the rivers play in the environment – from recreation to critical habitat. Oftentimes, a floodplain or flood protection project can be linked with an environmental protection and enhancement project, maximizing benefits. The Downtown Combined Sewer Upsizing Project is a prominent example of this integrated benefit.

The **Downtown Combined Sewer Upsizing Project** provides direct relief from combined sewer overflows and flooding in downtown Sacramento. Through the upsizing of undersized sewer pipeline, the project eliminates bottlenecks that currently exist and cause flooding to occur during 10-year 6-hour storm events. Additionally, this project provides significant water quality benefits through the elimination of raw sewage discharges to the adjacent Sacramento River and by minimizing the potential for the public to come into contact with raw sewage (e.g. reducing potential public health risks). Finally, this project also provides water supply benefits indirectly through the improvements to water quality. The Freeport Regional Water Project intake is located on the Sacramento River, directly downstream of the proposed project. Raw sewage releases to the Sacramento River has the potential to significantly impact river water quality which, in turn, has the potential to result in cessation of river intake operations due to severe water quality concerns. By reducing the potential for combined sewer overflows, these water quality concerns, and subsequently the potential water supply impacts, are ameliorated.

The **Antelope Creek Improvement Project** is a multi-benefit project being proposed by the Placer County Flood Control and Water Conservation District and Placer County Water Agency (PCWA). The benefits of this project are so varied that in addition to Flood Damage Reduction Benefits, this project also provides significant Water Supply, Water Quality and Other benefits. The project consists of dredging and improvements to Clover Valley Reservoir, which supplies PCWA with both water supply operational flexibility and improves water supplies through the improvement of the reservoir bottom, allowing for increased groundwater percolation. Additionally, maintenance of the reservoir and construction of a pipeline from the adjacent canal system to the reservoir extends the life of the project

and improves downstream water quality by significantly reducing sediment loading in the reservoir and creek systems. The Antelope Creek Improvement Project also includes the construction of two new weirs on Antelope Creek. These weirs will create two temporary (seasonal) impoundments on Antelope Creek which will also allow for additional stormwater percolation to local groundwater aquifers, and will remove pollutants from stormwater runoff by stilling water and allowing pollutants to settle from the flows prior to spilling downstream. This project meets multiple planning objectives by restoring local ecosystems and expanding an existing public recreation corridor. The idea for this project spawned from participation in the ARB IRWM effort.

The **Upper Unionhouse Creek Flood Protection Project** is first and foremost a flood damage reduction project. This project will widen Upper Unionhouse Creek between Strawberry Creek and Franklin Boulevard, thereby removing up to 300 houses from the 100-year floodplain for the creek and relieving the homeowners of the burden of flood insurance. The project will also support the development of the currently-threatened extension of the light rail from downtown Sacramento to Cosumnes River College (a project which will reduce pollution and traffic congestion and contribute to sustainable development) by reducing potential flooding impacts to the project, allowing for transportation project funding and permitting. Finally, the project will provide some water quality benefits by slowing the flow of floodwaters in Upper Unionhouse Creek, allowing for the settling of pollutants as the flow moves downstream.

Regional Map

The Downtown Combined Sewer Upsizing Project, the Antelope Creek Improvement Project, and the Upper Unionhouse Creek Flood Protection Project are all located within the ARB Region, which encompasses much of Sacramento County and the lower watershed portions of Placer and El Dorado Counties. The boundaries of the ARB IRWMP Plan area are defined by the boundaries of the participants' services areas, and include Placer County Water Agency (PCWA), City of Lincoln (Lincoln) and Sacramento County boundaries on the north, the lower watershed boundaries on the east, the Sacramento County boundary on the south (to the west bank of the Sacramento River), and the Sacramento River/Sacramento County line on the west. Most of the region overlies the North American, South American, or the Cosumnes Groundwater Subbasin and/or receives water supply, directly or indirectly, from the American, Sacramento, and/or Cosumnes Rivers. These common water supply sources, and related water supply issues and physical features, link the participating agencies together and make the region appropriate for integrated regional water planning and management.

The DACs in the ARB region were identified by evaluating geographic information system (GIS) files prepared by the U.S. Census Bureau. The data show average income by census tract. DACs are those with an annual median household income (MHI) below 80% of the statewide MHI. Identified DACs are shown in Figure 3. Each DAC lies within the boundary of a water purveyor, city, or county that has been involved in past ARB regional planning efforts. Unlike some parts of the state, the DACs in the Region are not isolated communities with particular water supply or quality concerns (for example, the Central Valley community of Allensworth is isolated with few alternatives to its high-arsenic groundwater supply). The flood protection, water supply and water quality needs of DACs in the ARB region are generally served effectively by water purveyor and/or special district (e.g. SAFCA and PCFCD) efforts to

American River Basin: Downtown Combined Sewer Upsizing Project Attachment 3 – Work Plan

provide high quality water supplies and a high level of flood protection to their entire service area and through the ARB Region's IRWM planning efforts.

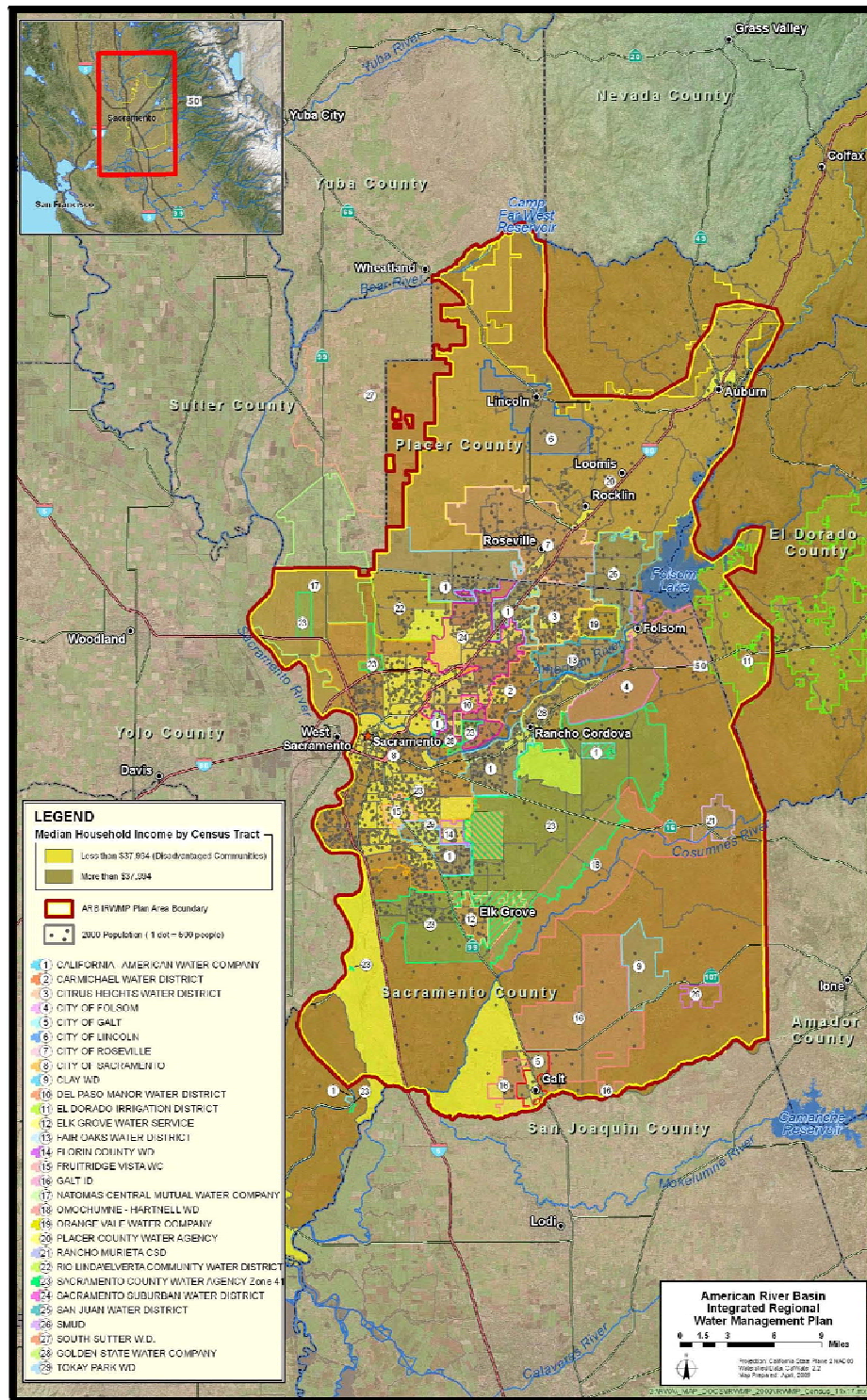


Figure 3: DACs in the ARB Region

Completed Work and Existing Data and Studies

Several portions of the Downtown Combined Sewer Upsizing Project have already been completed. These include the U and S Street Parallel Sewer, completed in 2007, and several projects completed in 2009 and 2010. The projects completed more recently include replacement of existing combined sewer trunk mains with larger pipelines (upsizing) and constructing parallel pipelines in S Street, 5th Street, and in the alley between J and K Streets (completed in 2010). These projects serve to both increase conveyance to the Sump 1/1A complex, which had been improved in 1997, and to reduce the hydraulic grade line in the vicinity of the improvements, including a vulnerable flooding location at 5th and U Streets. The improvements also provided hydraulic improvements to reduce odors and improve pumping efficiency at Sump 1 and Sump 2.

To date, the 60% design of Phase 1, and the conceptual design of Phases 2 and 3 of the proposed project has been completed. Further design work for Phase 1 is currently underway, with completion expected in June 2011. Further design work for Phase 2 will be started in May 2011, with 100% design completed in February 2012. The following planning study was completed to evaluate Phases 1 and 2:

- *Downtown Large Sewers Rehabilitation and Improvement, Phases 1 through 3* (Brown and Caldwell, April 2001) corresponding to Phases 1 and 2 of the proposed project, examined the large diameter combined sewer pipe in the downtown area of Sacramento for the purpose of identifying old deteriorated sewers that need replacement and determine areas where flood reduction can be achieved by upsizing pipe to provide detention storage. The added objectives of the pre-design or conceptual report was to identify potential fatal flaws, develop alternatives for overcoming the fatal flaws, identify and locate interferences that would impede construction, prepare preliminary capital cost estimates, and to prepare conceptual plans and profiles that would enable the City to proceed with detailed design and construction.

Planning for Phase 3 is currently underway, but the project is expected to be feasible based on the work already completed and the design work completed for Phases 1 and 2. Planning is expected to be completed in April 2011, with design commencing after completion of the design of Phase 2.

Program Preferences

The implementation of the ARB IRWM region's proposals for the Antelope Creek Improvement Project, the Downtown Combined Sewer Upsizing Project and the Upper Unionhouse Creek Flood Protection Project meet multiple Program Preferences presented in the *Proposition 84 & Proposition 1E IRWM Guidelines* (Guidelines, DWR, August 2010) including the following:

- Include regional projects or programs
- Effectively integrate water management programs and projects within a hydrologic region
- Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program
- Effectively integrate water management with land use planning
- Address Statewide priorities

Additional detail of how these projects contribute to the Program Preferences is included in Attachment 11.

Project Map

The locations of the ARB IRWM region's Prop 1E projects (the Antelope Creek Improvement Project, the Downtown Combined Sewer Upsizing Project and the Upper Unionhouse Creek Flood Protection Project) are shown in [Figure 2](#). Monitoring locations for the projects will generally be at the project sites and in the general vicinity of the construction. More detailed maps for each project are included in the Project Tasks section of their respective project proposals.

Project Timing and Phasing

While the ARB IRWM region's Prop 1E projects (the Antelope Creek Improvement Project, the Downtown Combined Sewer Upsizing Project and the Upper Unionhouse Creek Flood Protection Project) are ready to proceed upon award notification, there is flexibility in terms of delaying commencement of projects. Each of the three submitting agencies (Placer County Flood Control and Water Conservation District, the City of Sacramento and the Sacramento Area Flood Control Agency, respectively) is prepared to work with DWR to accommodate the timing of the availability of appropriations from the Proposition 1E bond.

All of the proposed ARB projects (including the one described in this Proposal) are stand-alone projects and do not require the implementation of other phases or projects to provide benefits to the ARB Region. Further, each project is part of a larger, phased project, as described below.

Downtown Combined Sewer Upsizing Project

In 1990, the Central Valley Regional Water Quality Control Board served the City with a Cease and Desist Order that directed the City to devise a plan to reduce its CSOs and CSS outflows. Over the next four years, the City developed the Combined Sewer System Improvement Program (CSSIP), obtained approval from the Regional Board and City Council, and since then has largely implemented it. This effort, with the ultimate goal of eliminating CSS outflows for 10-year, six hour storms, has resulted thus far in reduction in outflow volumes of about 60% since the inception of the CSSIP, based upon hydraulic model results. This was achieved in earlier project phases by increasing pumping capacity at Sump 1/1A and at Sump 2, and by constructing additional in-line and offline storage. Remaining projects in the first part of the CSSIP mostly consist of completing the Downtown Sewer Upsizing Project, which, thus far, has been designed and constructed in sections due to funding constraints.

Antelope Creek Improvement Project

This project is proposed in three phases; the first two phases include the design and construction of two on-channel flood control weirs along Antelope Creek. The Phase 1 weir is located near Atlantic Street in Roseville while the Phase 2 weir is located at the bike path crossing at Roseville Parkway. Phase 3 of the Antelope Creek Improvement Project involves improvements to the upstream Clover Valley Reservoir, which regulates water deliveries in the lower Antelope Canal, and eventually flows into Antelope Creek. The improvements include desilting the reservoir and constructing a pipeline to bypass the unlined portion of the Antelope Canal that has experienced severe erosion and down-cutting. Although all three

phases of the project are in the Antelope Creek Watershed, the timing of the phases does not impact one another.

Upper Unionhouse Creek Flood Protection Project

Unionhouse Creek is a tributary to Morrison Creek in the southern part of the City of Sacramento (City) and in unincorporated Sacramento County (County). Both creeks converge just to the west of the Union Pacific Railroad (UPRR) line, about one-half mile north of the Sacramento Regional Waste Water Treatment Plant (Treatment Plant). The portion of Unionhouse Creek between Franklin Boulevard and the UPRR line has been improved as part of the federally-authorized South Sacramento Streams Group (SSSG) Project (Federal Project). A new flood wall has been inserted into the levee along the northern bank of the creek and the southern bank has been lowered to allow high flows to spill into the Beach-Stone Lake floodplain east of the Treatment Plant. This non-federal phase of the larger Morrison Creek watershed flood reduction projects proposes to address the existing flood risk along Unionhouse Creek by expanding the width and adjusting the depth of the existing channel between Franklin Boulevard and Bruceville Road. This project would significantly reduce the likelihood of overbank flooding in this portion of the creek and would provide at least a 100-year level of flood protection to the lands adjacent to the Creek in this area, thus removing 250 to 300 homes from the regulated floodplain and relieving the homeowners of the burden of costly flood insurance. Subsequent phases of the larger flood protection effort in the Morrison Creek watershed will further reduce flood damage this area; these phases will be implemented as funding allows.

Data Management and Monitoring Deliverables

The ARB IRWM Region adopted data management and plan performance monitoring standards in its May 2006 IRWM Plan. Associated with this, a project database is currently maintained by RWA and a website is used to disseminate plan information (<http://www.rwah2o.org/rwa/programs/irwmp/>). RWA will be updating its IRWM Plan in 2011 and 2012 as described in the region's September 28, 2010 Prop 84 IRWM Planning Grant Application. One of the key tasks described in the application is the development of a web-based interface where information will be collected and disseminated. The interface will use an input form that, at a minimum, will include all information required to complete a project review process as described on page 21 of the DWR IRWM Guidelines (August 2010). This interface will populate a database developed to store and disseminate information via the web interface. The interface will include an option to upload associated files (for example, a PDF file of project plans). Any required monitoring specific to a project will be collected consistent with applicable standards (for example, SWAMP and CASGEM) and reported to the State. These substantial improvements are scheduled to be completed by August 2011, so they will be in place generally coincident with beginning implementation of the project in this Proposal. Proponents of the three ARB IRWM region projects (the Antelope Creek Improvement Project, the Downtown Combined Sewer Upsizing Project and the Upper Unionhouse Creek Flood Protection Project) have agreed to coordinate with RWA to acknowledge and commit to the requirements of providing data and monitoring consistent with IRWM guidelines.

Project Tasks

Summarized in the following section is a project work plan for the Downtown Combined Sewer Upsizing Project. This project work plan contains a summary description of the project plus detailed descriptions

of each task that will be conducted to implement the project. These same tasks are reflected under the same project headings in Attachment 4 - Budget and Attachment 5 - Schedule, where the task-specific and overall project budgets and schedules are presented.

Detailed Description

The Downtown Combined Sewer Upsizing Project is a portion of the City of Sacramento's Combined Sewer System Improvement Program (CSSIP). The City has completed similar improvements downstream to date, and in conjunction with these prior improvements, the proposed project will reduce combined sewer overflows (CSOs) to the Sacramento River and reduce flooding of combined sewage discharges (termed "CSS outflows") in the downtown area of Sacramento. The Project will meet multiple planning objectives, including:

- Reducing flood damage in the economically vital downtown area of Sacramento;
- Improving water quality in the Sacramento River through the reduction of raw sewage releases into the source of drinking water for millions of Californians; and
- Protecting public health by reducing the likelihood and volume of diluted sewage on public streets and properties.

Overview of the City of Sacramento Combined Sewer System

Combined systems are an archaic type of sewer system in which domestic sewage, commercial and industrial wastewater, and surface runoff are conveyed in a single pipeline. This type of system has become rare; they generally only exist in older cities, and in Northern California, are found predominantly only in San Francisco and Sacramento. Unlike separate storm and sewer systems, when flows in combined sewers become too great due to runoff, combined runoff and sewage spills onto public streets and private property and into receiving waterways without prior treatment. As a result, environmental regulators and system owners have become more focused on these systems with the goal of reducing these surcharging events to protect waterways and public health.

The City of Sacramento's CSS serves the Downtown, East Sacramento, River Park, Land Park, Curtis Park, and Oak Park neighborhoods and totals 7,500 acres of the City. An additional 3,800 adjacent acres contribute sanitary sewage to the system, but the stormwater drainage is separated. These areas were separated as a result of efforts in the past to improve operational efficiency by diverting storm drainage and thus reduce the surcharging caused by high runoff flows. The CSS also includes two major pumping plants, Sump 1/1A and Sump 2/2A, and treatment plants that perform primary treatment (Combined Wastewater Treatment Plant and Pioneer Reservoir). Figure 4 shows the City's CSS service area.

The City of Sacramento operates its combined sewer system under NPDES permit number CA0079111. Mandated by its permit and renewed every 5 years, the City makes continuous improvements to the system. In 1990, the Central Valley Regional Water Quality Control Board (Regional Board) served the City with a Cease and Desist Order that directed the City to devise a plan to reduce its CSO's and CSS outflows. Over the next four years, the City developed the CSSIP, obtained approval from the Regional Board and City Council, and since then has largely implemented it. This effort, with the ultimate goal of

eliminating CSS outflows for 10-year, six hour storms, has resulted thus far in reduction in outflow volumes of about 60% since the inception of the CSSIP, based upon hydraulic model results. This was achieved by increasing pumping capacity at Sump 1/1A and at Sump 2, and by constructing additional in-line and offline storage, especially in East Sacramento and near the UC Medical Center. Over the past 15 years, the City has spent about \$130 million to improve and rehabilitate the CSS. Remaining projects in the first phase of the CSSIP mostly consist of completing the Downtown Sewer Upsizing Project, which, thus far, has been designed and constructed in sections due to funding constraints. Figure 5 shows the entire Downtown Sewer Upsizing Project, including completed and ongoing sections.

Downtown Sewer Upsizing Project

The Downtown Combined Sewer Upsizing Project was first conceived by City hydrologists in the 1990's to address the ongoing flooding problems in the Downtown area. Based upon a cost/benefit analysis, City staff developed a plan for a network of upsized pipelines to reduce surcharging of combined sewage and flooding in this targeted area. In 2000, a pre-design was completed to ensure that the Downtown Combined Sewer Upsizing Project was feasible. By completing topographic surveys and researching and potholing existing underground utilities (which are quite dense in the downtown area), the routing was adjusted and a final alignment and construction approach was developed.

Previously completed portions of the Downtown Combined Sewer Upsizing Project, include the U and S Street Parallel Sewer, completed in 2007, and several projects completed in 2009 and 2010, as shown in Figure 5. These include replacement of existing combined sewer trunk mains with larger pipelines (upsizing) and constructing parallel pipelines in S Street, 5th Street and in the alley between J and K Streets (completed in 2010). These projects served to both increase conveyance to the Sump 1/1A complex, which had been improved in 1997, and to reduce the hydraulic grade line in the vicinity of the improvements, including a vulnerable flooding location at 5th and U Streets. It also provided hydraulic improvements to reduce odors and improve pumping efficiency at Sump 1 and Sump 2.

The City has continued the Downtown Combined Sewer Upsizing Project, budgeting design to construct a new pipeline in P Street from 5th to 7th Streets, indicated in this Proposal as Phase 1. This project is scheduled to be advertised for bidding in the summer of 2011.

To complete the Downtown Combined Sewer Upsizing Project, it is necessary to continue the “upsizing” in 7th Street to connect with a section upstream that was constructed out of sequence due to timing constraints, and to extend this network of upsized pipes in L, G, F, and 8th Street, as shown on Figure 5. For the Project to function properly, it is necessary that it be continuous, without bottleneck sections like those that currently exist. Once completed, the network of upsized and parallel pipes will serve to lower the hydraulic grade line in this portion of the City with critical and high value real estate that has experienced flooding of combined sewer in the past. In fact, a targeted vulnerable facility is the Sacramento County Administration building located at 7th and H Streets that has periodically experienced flooding of combined sewage. This facility cannot be safeguarded until the system is continuously upsized downstream in 7th Street and eventually to Sump 1/1A. As such, Phase 2 of the Project will retrofit or replace the pipeline on 7th Street from P Street to K Street, while Phase 3 of the Project will retrofit or replace the pipeline on G Street from 7th Street to 9th Street and on F Street from 13th Street to 15th Street.

The Downtown Sewer Upsizing Project is implemented by replacing existing pipelines with larger pipes, by paralleling the existing pipeline or by connecting new pipes to upsized portions, whichever approach is determined to be most practical. For example, the P Street section is necessary due to the need to re-route the larger (upsized) pipeline around a State utility tunnel that effectively blocked construction of the larger pipeline. During preliminary design, it was determined that re-routing the Downtown Combined Sewer Upsizing Project down P Street was more practical than reconstructing the tunnel. Replacing the pipelines has the added benefit of renewing pipes that have long since exceeded their useful lives. For example, the pipes in 7th Street and S Street are mostly constructed of clay bricks and were constructed in the 1890s. As such, they are not reliable and have been known to fail suddenly. It is worth noting that the City has separately budgeted a project to preserve and display a section of this brick main for historical interest.

In addition to the benefits provided to the downtown Sacramento area due to reduced combined sewer overflows, the Project will also benefit water suppliers utilizing Freeport Regional Water Authority's (FRWA) intake structure. As the FRWA intake facility is located approximately three miles downstream of downtown Sacramento on the Sacramento River, any combined sewer overflows occurring in the City and entering the river has direct significant negative impacts on the River's water quality and therefore affects water entering the FRWA intake structure.

Combined System Modeling

The City uses a dynamic hydraulic model which tracks sewer and runoff volumes and routes them to pipelines and above-ground in case of surcharging. Since 1988, the City used a customized version of SWMM, named City SWMM, which was designed to analyze surcharging and track the flow components (sanitary sewer and runoff) and to calculate sewer volumes that surcharge to the surface.

In 2009 and 2010, the City upgraded and calibrated its model. The more refined model uses InfoWorks and has been refined to include much more detail such as surveyed flowline and manhole lid elevations. The model has also added operation of downstream pump station and treatment plant operations. Using this model, City staff can evaluate proposed projects to determine the effect that the proposed project has on discharges to the Sacramento River and to flooding, including the sanitary sewage portion of flooding.

Figure 4: City of Sacramento Sewer Service Area

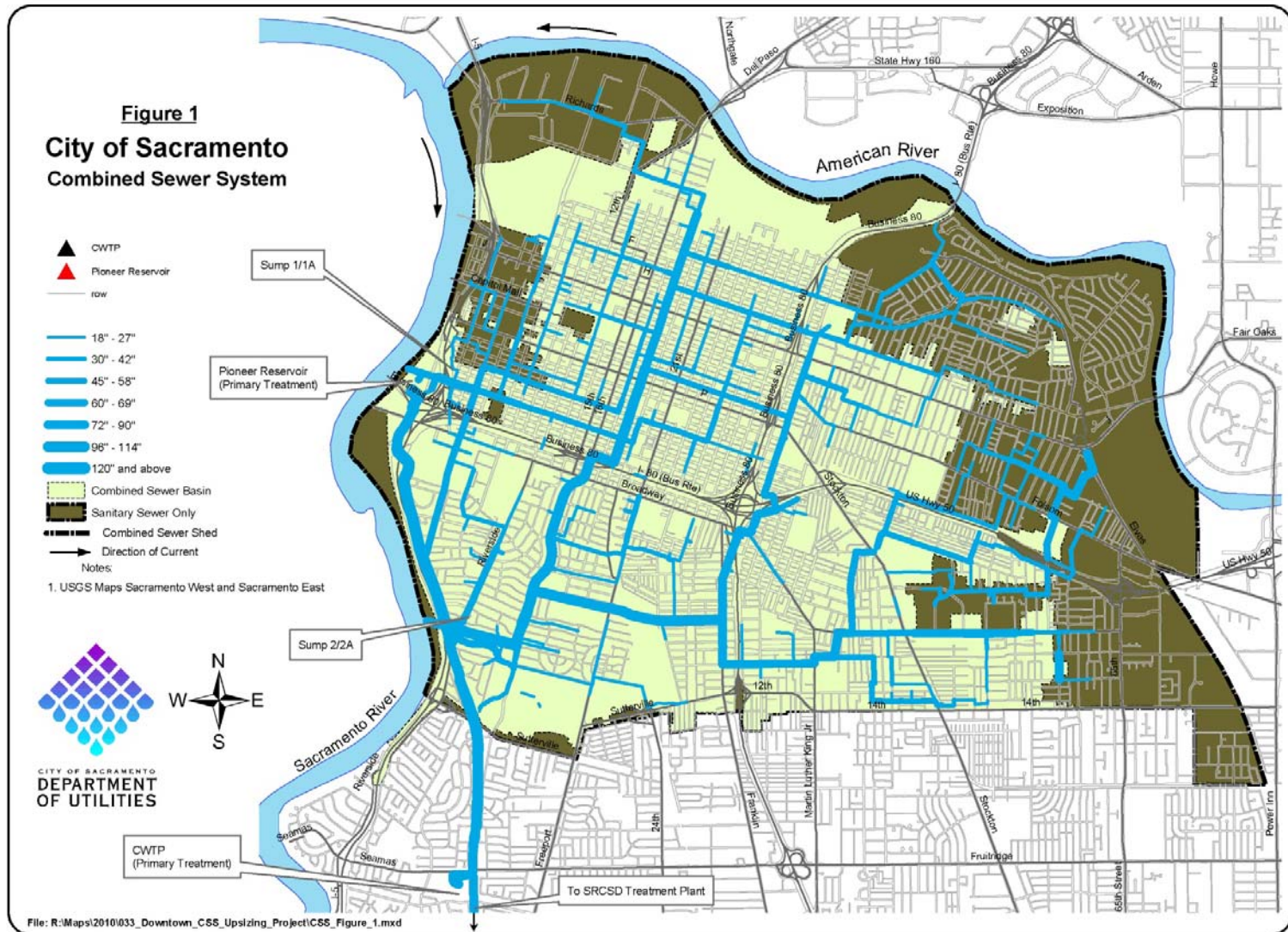
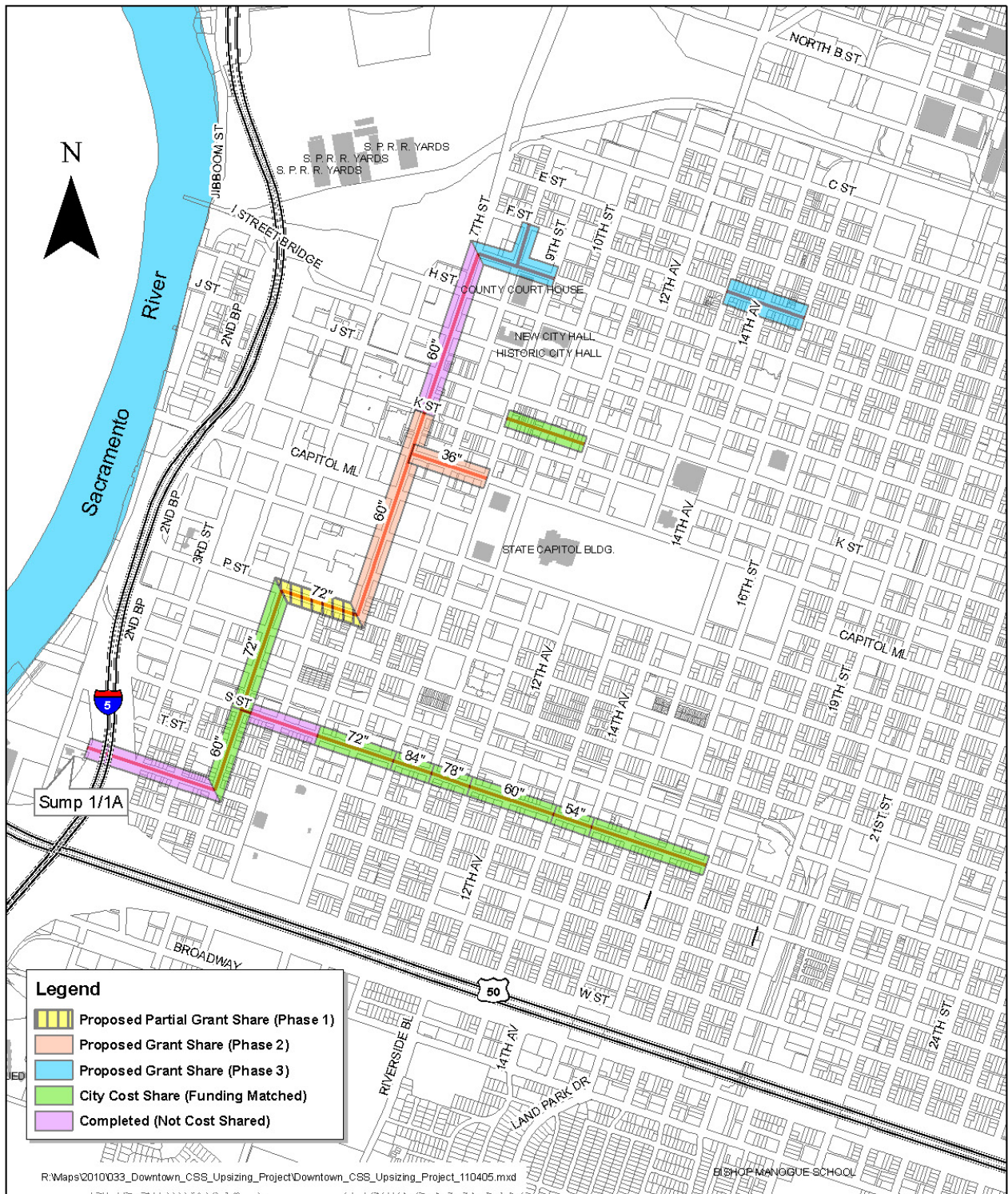


Figure 5: Location of Downtown Combined Sewer Upsizing Project



Budget Category (a): Direct Project Administration Costs

Direct project administration costs include general project administration tasks (claim preparation, communications with the California Department of Water Resources [DWR], and City Council communications), Labor Compliance Program (LCP) implementation, and reporting (quarterly reports and final report). Included under this budget category are three tasks: administration, a labor compliance program, and reporting.

Task 1: Administration

Work to be completed as part of Task 1, Administration, includes City Council communications, project status meetings, communications with DWR, contractors and various City agencies. For this Project, the City of Sacramento (City) will be the primary project sponsor.

Task 2: Labor Compliance Program

The City of Sacramento has a certified labor compliance program that will be used for this Project. The City has extensive experience administering this program. The labor compliance services will include, at a minimum, monitoring and preparation of summary and status reports, receiving, reviewing and processing certified payroll reports, conducting interviews, as well as collecting, reviewing, and processing other data. Annual reports to the Department of Industrial Relations (DIR) will also be prepared and submitted.

Task 2 Deliverables:

- Certified Labor Compliance Program
- Annual DIR Reports

Task 3: Reporting

Following execution of the grant agreement, quarterly reports will be prepared assessing the progress and accomplishments of the Downtown Combined Sewers Upsizing Project. A project completion report will also be prepared at the end of the project, anticipated to be in November 2013. The City will keep all records and documents pertaining to the project for three years after completion of the Project.

Task 3 Deliverables:

- Quarterly reports as specified in the Grant Agreement
- Completion report as specified in the Grant Agreement

Budget Category (b): Land Purchase/Easement

All of the proposed improvements for the Downtown Combined Sewer Upsizing Project will take place within City maintained Right-of-Way. Accordingly, the City will not need to purchase land or obtain easements.

Budget Category (c): Planning/Design/Engineering/Environmental Documentation

One primary planning document has been prepared to demonstrate the viability of the project. At this time, Phase 1 of the Downtown Combined Sewer Upsizing Project has completed the 60% design stage. Final design will be completed in June 2011, followed by construction to be completed by December

2011. The conceptual design for Phase 2 is currently complete. Final design for this phase will be completed on or around February 2012, followed by construction to be completed by October 2012. Phase 3 is currently in the planning stage. Planning for Phase 3 is anticipated to be completed in May 2011, with final design completed by January 2013, followed by construction to be completed by September 2013.

Task 4: Assessment and Evaluation

The following planning study was completed to evaluate Phases 1 and 2 of the proposed Project:

- The *Downtown Large Sewers Rehabilitation and Improvement, Phases 1 through 3* (Brown and Caldwell, April 2001) examined the large diameter combined sewer pipe in the downtown area of Sacramento for the purpose of identifying old deteriorated sewers that need replacement and determine areas where flood reduction could be achieved by upsizing pipe to provide detention storage. Note that the “Phase” numbering in this study does not match numbering in this Proposal. The added objectives of the pre-design or conceptual report was to identify potential fatal flaws, develop alternatives for overcoming the fatal flaws, identify and locate interferences that would impede construction, prepare preliminary capital cost estimates, and to prepare conceptual plans and profiles that would enable the City to proceed with detailed design and construction.

The study demonstrated the need and feasibility for Project Phases 1 and 2. The planning work for Phase 3 is currently 10% complete, however the Project is expected to be feasible based on the City’s recent experience with earlier phases of the Downtown Combined Sewer Upsizing Project.

Task 4 Deliverables:

- Completion of the conceptual design for Phase 3 (conceptual design for all other phases is complete)

Task 5: Final Design

The 60% design for Phases 1 of this project has been completed. The remaining phases are currently in the conceptual stage. Four design submittals are expected for each phase of the three project phases, corresponding to the 30%, 60%, 90% and 100% (final) design documents. The design for each phase of the project will be performed by City staff.

During design, ASTM Construction Standards and Occupational Safety and Health Administration (OSHA) regulations and industry standard practice will be used as construction standards and health and safety standards. City of Sacramento standards for earthwork, traffic control, pipe construction, tree mitigation, etc. will be followed and permits, if warranted, acquired. The City’s Stormwater Management Manual will be followed.

Task 5 Deliverables (Phase 1):

- 90% (pre-final) Design
- Final Plans and Specifications

Task 5 Deliverables (Phases 2 & 3):

- 30% Design
- 60% Design
- 90% (pre-final) Design
- Final Plans and Specifications

Task 6: Environmental Documentation

A programmatic EIR was completed for Phase 1 by EIP Associates and Peak Associates in November 1996 and approved by City Council later that same year. Nevertheless, the Community Development Department, Environmental Planning Services Division (EPSD), has reviewed Phase 1 of proposed Project and determined that both projects are categorically exempt from the provisions of CEQA under Class 2, Section 15302(c). A project exempt under Class 2, Section 15302(c), consists of the replacement of existing utility facilities where the new facilities will have substantially the same purpose and capacity as the facilities replaced. It is anticipated that a Notice of Categorical Exemption (NOE) will be filed with the County Clerk June 2011.

Like Phase 1, it is anticipated that the EPSD will likewise determine that Phases 2 and 3 of the proposed Project is categorically exempt from the provisions of CEQA under Class 2, Section number 15302(c). A NOE for Phase 2 is anticipated to be filed in January 2012 and an NOE for Phase 3 is anticipated to be filed in December 2012.

Task 6 Deliverables:

- Notices of Categorical Exemptions for Phases 1, 2 and 3

Task 7: Permitting

The City does not anticipate that a general state stormwater NPDES permit will be required for any phase of the Project as the construction zone for each phase is less than an acre. No other permits should be necessary for this project. The contractor may need to make arrangements with adjoining property owners concerning access to private parking.

Task 7 Deliverables:

- No permits anticipated

Budget Category (d): Construction/Implementation

Task 8: Construction Contracting

All work for Phase 1 under Task 8 is expected to begin in June 2011, while Task 8 for Phase 2 will begin in February 2012 and Task 8 for Phase 3 will begin in January 2013. Each project phase will be bid and contracted separately. Work items include Bid Advertisements, Notices of Award (NOA), Notices to Proceed (NTP), and monthly progress reports.

Task 8 Deliverables:

- Notices of Award
- Notices to Proceed

■ Monthly Progress Reports

Task 9: Construction

Construction of the Downtown Combined Sewer Upsizing Project will be conducted over three years: Phase 1 during 2011, Phase 2 during 2012, and Phase 3 during 2013. Since the proposed Project phases involve combined sewer pipe that conveys both sanitary sewer and stormwater, construction is generally slowed or halted in the winter months due to the increase inflows from storm runoff. Task 9 is divided into three categories: mobilization and site preparation, project construction, and performance testing and demobilization, as described in the following sections. The categories will all be implemented the same for each phase of the Project.

Mobilization and Site Preparation

Upon receipt of the NTP, the contractor and City Staff will begin mobilization and site preparation activities. These activities will include potholing of existing utilities with project alignment, sawcutting existing pavement, instituting tree protection measures, if warranted, following all prescribed water quality requirements, and moving all necessary equipment and supplies to the project area.

Project Construction

Following completion of all site preparation and mobilization, the contractor will perform project construction activities for each project phase. This includes the removal of pavement in the pipe trench area, trench excavations, dewatering, shoring, relocation of other conflicting utilities, removal and disposal of existing pipe and manholes, placement of new pipe and manholes, backfilling of trench, and restoration of the pavement surface.

Performance Testing and Demobilization

During construction activities, the City will perform required inspections and materials testing and monitoring for all phases of the Project. Inspections will include verifying trench width and depth, materials used on the project, trench/excavation stability, line and grade of pipe and manholes, and trench backfill materials and process. Materials testing and monitoring will include earthwork compaction testing, concrete strength, and air testing for leakage of pipe joints. Final inspection and project certification will also be performed, along with contractor demobilization.

Budget Category (e): Environmental Compliance/Mitigation/Enhancement

Task 10: Environmental Compliance/Mitigation/Enhancement

As previously noted in Task 6, the Community Development Department, Environmental Planning Services Division has reviewed Phase 1 of the Downtown Combined Sewer Upsizing Project and determined that the project is categorically exempt from the provisions of CEQA under Class 2, Section 15302(c). Therefore, as part of that task, Notices of Categorical Exemption will be filed with the County Clerk after City Council awards construction contracts. Similarly, it is anticipated that other phases of the Downtown Sewer Upsizing Project will also be categorically exempt from the provisions of CEQA under Class 2, Section 15302(c). Accordingly, mitigation measures, beyond standard construction practices, are not anticipated for the Project; costs associated with standard construction practices have been included in Attachment 4, Budget.

A project-specific Project Performance Monitoring Plan will be prepared for this project to direct longer-term project monitoring to ensure successful project implementation and operation. It should be noted that, while the schedule for this project shows that project performance monitoring and reporting will cease at the completion of project construction, it is understood the project performance monitoring will continue for 10 years following project completion, with annual project performance reporting. Although the implementation of the performance monitoring measures is included under this task, the preparation of the Project Performance Monitoring Plan is included under in Task 12 in Budget Category (g) Other Costs.

Budget Category (f): Construction Administration

Task 11: Construction Administration

Construction Administration includes Construction Management services and other administrative activities relating to project implementation. General contract administration and field inspections will be performed by City staff.

Construction management for all phases of the project will include the following work items:

- Review contractor's schedule and make recommendations
- Manage and coordinate all project inquiries, serve as focal point
- Manage and coordinate all contractor correspondence
- Maintain detailed project records
- Receive, log, and distribute all submittals for review
- Inspect completed construction
- Recommend final payment and submit all project files for archiving

Budget Category (g): Other Costs

Included in this budget category are permit fees and Task 12, Project Performance Monitoring Plan.

Task 12: Project Performance Plan

As part of the overall grant application, a Project Performance Monitoring Plan will be prepared for implementation under the grant award. This plan will be prepared to:

- Provide a framework for assessment and evaluation of project performance.
- Identify measures that can be used to monitor progress toward achieving project goals.
- Provide a tool to monitor and measure project process and guide final project performance reporting that will fulfill grant agreement requirements.
- Provide information to help improve current and future projects.
- Maximize the value of public expenditures to achieve desired environmental results.

This document will identify the problem to be addressed by the Project, summarize the project tasks, specify the project goals and desired outcomes, and include a project performance measures table

presenting output and outcome indicators, measurements tools and methods to be implemented and performance targets.

Task 12 Deliverables:

- Project Performance Monitoring Plan

Budget Category (h): Construction/ Implementation Contingency

A construction/implementation contingency of 5% will be used for Phase 1 of this Project, and 10% for Phases 2 and 3. These percentages are based on previous projects and the design state of each Project phase.

Supporting Documentation

The following supporting documentation is included in this proposal:

- *Downtown Large Sewers Rehabilitation and Improvement, Phases 1 through 3* (Brown & Caldwell, April 2001)
- *City of Sacramento Improvement Plans for P Street Sewer Project Between 5th & 7th Streets - 60% Design* (City of Sacramento, December 2010)
- *California Sportfishing Protection Alliance Petition*